

DESCRIPTION OF A LUMINOUS DIPTEROUS INSECT  
(FAM. MYCETOPHILIDÆ), FROM NEW ZEALAND.

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In this contribution the imago form of the luminous larva originally discovered by Mr. Meyrick (Entom. Mon. Mag., 1886) in Wellington, New Zealand, and since investigated and reared by Mr. G. V. Hudson of that town, is described. The insect, as asserted by Baron Osten-Sacken from an examination of specimens of the larva (Entom. Mon. Mag. XXIII., p. 133), belongs to the Mycetophilidæ, and is now described as *Bolitophila luminosa*. The Baron, however, was of opinion (*in litt.*, June 30th, 1889), that the larvæ he had for inspection bore unmistakably the characters of *Sciophila*, and were very unlike those of *Bolitophila*. According to Mr. Hudson's observations on the life-history of this insect, which together with the appended description, are to be published elsewhere, "the imago itself is highly luminous, brighter than the pupa, but not nearly so bright as the full-grown and vigorous larva" (*in litt.*, Sept. 17th, 1890).

Fam. MYCETOPHILIDÆ.

Sect. BOLITOPHILINÆ.

Genus BOLITOPHILA, Hoffm.

*Bolitophila*, Hoffm., Meigen, Syst. Besch. I. p. 220, pl. 8, figs. 1-4, 1818; Macquart, S. à B. Dipt. I. p. 126, 1834; *Messala*, Curtis, Brit. Entom. XIII. p. 581, figs. 1-3, 1836; *Bolitophila*, Walker, Ins. Brit. Dipt. III. p. 71, pl. xxiii. fig. 7, 1856; Winnertz, V. z-b. G. Wien, XIII. p. 672, pl. xix., fig. 5, 1863.

Head small, roundish, fore part flattened. Eyes broadly oval, a little emarginate on the inner side above. Ocelli three, arranged

in a somewhat bent line on the front. Palpi prominent, incurved, cylindrical, four-jointed; first joint very small, the following of almost equal length, the fourth the longest. Antennæ setaceous, pubescent, in the ♂ as long as, in the ♀ shorter than the body, 2- + 15-jointed; the joints of the scapus cyathiform; the flagellar joints cylindrical, the terminal one very small, almost gemmiform. Thorax small, oval, highly arched; scutellum small, roundish; metathorax acclivous. Halteres large. Abdomen very long, slender; in ♂ linear, subcylindrical, 8-segmented, without the anal joint; in ♀ laterally compressed, 9-segmented, the last segment small. Legs long and slender; tibiæ with very short, weak spurs; the fore tibiæ with a single range of spines on the inner side, and the hind pair with one range on the inner, and two ranges of shorter and weaker spines on the outer side. Wings large, microscopically pubescent, as long as, or somewhat longer than the abdomen, with obtusely-cuneiformly narrowed base; incumbent in repose. Costal vein uniting with the tip of the third longitudinal vein at, or somewhat beyond the apex of the wing; auxiliary vein complete, joining the costa, united to the first longitudinal vein by the subcostal cross-vein; third longitudinal vein with an anterior branch (which is sometimes wanting), the branch short, almost vertical, ending in the tip of the first longitudinal vein or in the costa; small cross-vein short, situated about midway between the origin of the third longitudinal vein and the inner end of the second posterior cell; fourth longitudinal vein starting from the base of the fifth longitudinal vein; fork of the fifth longitudinal vein united at its base to the fourth longitudinal vein by a short cross-vein; sixth longitudinal vein perfect.

*BOLITOPHILA LUMINOSA*, sp.n.

♀.—Length of antennæ.....	0·090 inch	...	2·27 millimètres.
Expanse of wings.....	0·250 × 0·070	...	6·34 × 1·77
Size of body .....	0·380 × 0·040	..	9·64 × 1·01

Antennæ very slender, as long as the head and thorax combined; joints of the scapus yellow, slightly tinged with brownish; flagellar

joints elongate, progressively diminishing in thickness, brown. Hypostoma brown. Palpi yellow. Front and vertex black. Thorax black or very deep brown, levigate, with a median yellow line, the humeri and lateral borders pale yellow or whitish; two convergent rows of short black hairs, from humeri to scutellum; some black bristly hairs above the origin of the wings; pleuræ deep brown, tinged with pale yellow; scutellum black; metanotum brown, bordered laterally with yellow. Halteres pallid, the club black. Abdomen slender, sub-cylindrical, five times the length of the thorax, dusky brown, the segments indistinctly (especially the hindermost ones) tinged with yellowish anteriorly; densely clothed with very short black or dark brown hairs; extremity and lamellæ of the ovipositor yellow. Legs long and very slender. Coxæ pale yellow or whitish, the fore and intermediate pairs with the extreme apex, and the hind pair with almost the apical half, dusky brown; trochanters dusky brown; femora pale yellow or whitish, the hind pair black at the apex; tibiæ and tarsi black. Tibial spurs black. In the fore-legs the tibiæ and metatarsi of about equal length; the tarsi twice the length of the tibiæ. Wings shorter than the abdomen, pellucid, with a delicate yellowish tint, and almost the apical half infuscated with grey. Costal vein uniting with the tip of the third longitudinal vein somewhat beyond the apex of the wing; auxiliary vein terminating in the costa opposite or somewhat beyond the inner end of the second posterior cell, the subcostal cross-vein situated near its base; first longitudinal vein running straight into the costa opposite a point before the tip of the posterior branch of the fourth longitudinal vein; third longitudinal vein gently arcuated at its base, strongly arcuated towards its tip; posterior branch of the fifth longitudinal vein abruptly reaching the margin.

*Hab.*—Wellington, New Zealand (G. V. Hudson). Bred during September.

*Obs.*—In this species, as in the European *Bolitophila tenella*, Winn., the anterior branch of the third longitudinal vein is wanting.